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ABSTRACT

This pamphlet is second in a series describing the Management Organization Systems Technique (MOST), whose essential function is to determine the goals and objectives of the college and then to assist management in the attainment and evaluation of them. The planning subsystem, central to this process, begins with a determination of the needs of the service community and the resources and constraints involved, then moves to a projection of this environment into the future. This phase is followed by the development of strategic alternatives and the actual decision-making process. Information is fed into the total system from the data and evaluation subsystems and data are generated for future use. When college goals are finalized, the planning subsystem demands that each department (academic and administrative) project its output based upon the college mission. Measurable objectives for departments, programs and courses are formalized so that their relationship to overall goals is clear. This function also requires significant amounts of information and generates more data to be used in evaluating performance. Since evaluation utilizes the measurable goals/objectives set in the planning process, planning can be seen as a cycle of events. A short bibliography is appended. (Author/JDS)

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MANAGEMENT SYSTEMS
MOST TECHNIQUE
ORGANIZATION

A Management System for Higher Education

The Planning Function

2

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INTRODUCTION TO

MANAGEMENT ORGANIZATION SYSTEMS TECHNIQUE

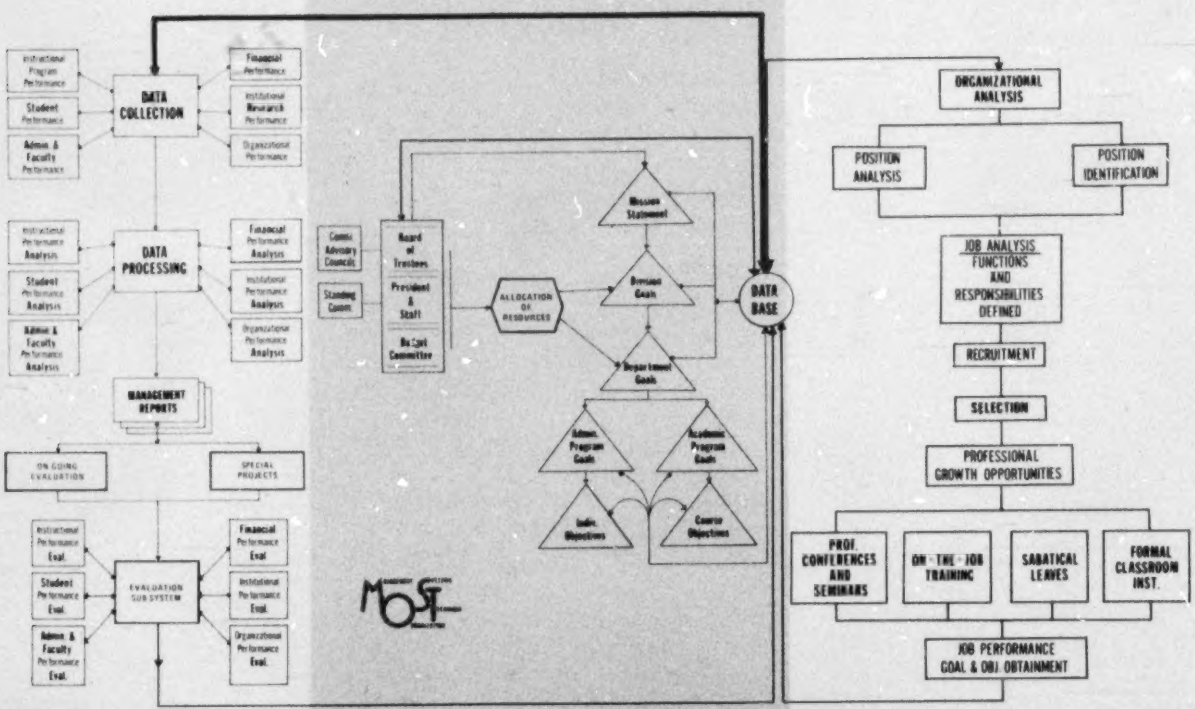
One of the finest achievements during my tenure as chief executive officer of Wayne County Community College has been the recent development within its professional ranks of a comprehensive management program entitled, "Management Organization Systems Technique" (M.O.S.T.).

A prototypical concept in 1971, M.O.S.T. has evolved into a profound far-reaching system which is expected to provide the College's leadership with an excellent opportunity for coordinating the dynamic growth and development of the College, thereby being able to respond quickly and efficiently to the College's needs.

Under the direction of the Board of Trustees, the Vice Presidents and I have strongly supported and encouraged the efforts of the developmental team headed by Dr. Mostafa M. Afr, Vice President for Finance. That team has brought to fruition a comprehensive program yielding educational and service benefits to students, faculty, staff members and the community we have been entrusted to serve.

The five year development of M.O.S.T. has been worthwhile. Through the effective implementation of this management system in the months and years to come, we will be able to meet our responsibilities well, in addition to helping create for the community at large a community college truly responsive to its community's needs.

Dr. Reginald Wilson
President


DATA COLLECTION
DATA PROCESSING
MANAGEMENT REPORTS
ON GOING EVALUATION
SPECIAL PROJECTS
EVALUATION SUB SYSTEM
Board of Trustees
President & Staff
Budget Committee
ALLOCATION OF RESOURCES
Mission Statement
Division Goals
Department Goals
Admin. Program Goals
Academic Program Goals
Indiv. Objectives
Course Objectives
DATA BASE
ORGANIZATIONAL ANALYSIS
POSITION ANALYSIS
POSITION IDENTIFICATION
JOB ANALYSIS FUNCTIONS AND RESPONSIBILITIES DEFINED
RECRUITMENT
SELECTION
PROFESSIONAL GROWTH OPPORTUNITIES
PROF. CONFERENCES AND SEMINARS
ON-THE-JOB TRAINING
SABATICAL LEAVES
FORMAL CLASSROOM INST.
JOB PERFORMANCE GOAL & OBJ OBTAINMENT

INTRODUCTION TO PLANNING

The problems facing college administrators have never been greater or more complex than they are today. Since many of these problems arise from economic issues, colleges have been endeavoring to increase efficiency in an effort to resolve them. In recent years, these efforts have focused on adapting industry-oriented management techniques to college administration. Some improvements have been achieved through application of these methods, but a complete management system designed specifically to accommodate higher education is obviously needed. The basic purpose of M.O.S.T. is to provide such a system.

Management Organization Systems Technique (M.O.S.T.) is designed to create and integrate the processes and procedures required of a sophisticated management system for educational administration. M.O.S.T. requires college management to take previously unrelated resources, facilities, skills, and other components and work them into a system that will attain the goals of the college. The planning sub-system of M.O.S.T. primarily attempts to define institutional goals and subsequently, to create processes whereby these goals are translated into measurable objectives and management programs designed to achieve the stated objectives. Further, planning involves the implementation of budgeting, monitoring and managing assemblages into an integrated planning network.

Developmental Team

Systems Orientation

The aspect of M.O.S.T. that distinguishes it from previous attempts to relieve the present crisis in higher education is that M.O.S.T. is a total system. Whereas other efforts have at times been successful in developing budgeting systems, information systems, objective-setting systems, or a limited combination of management areas, M.O.S.T. consists of an organized, highly unified combination of these and other sub-systems. Its comprehensive approach addresses itself to the entire range of techniques or processes involved in operating a college.

The employment of a total system rationalizes the decision-making function while at the same time improving the operational aspects of running the institution. Obviously, a total system concept can provide these services much more efficiently than a series of independent sub-systems can. In doing so M.O.S.T. integrates basic functional areas into a comprehensive management process that encompasses planning and budgeting, data collection and processing, evaluation and feedback, and staff development.

The underlying philosophy of M.O.S.T. is that each of these functions achieves optimum effectiveness only when all four are integrated. This means that interrelationships and interdependencies must be clearly understood before the system becomes operational. The planning process, therefore, even though it seems to represent the earliest stage in the management cycle, cannot be considered complete without input from the data system and feedback from the evaluation system.

M.O.S.T. Planning Process

A systems approach to planning implies a logically-connected series of procedures which, in total, add up to policy formulation as well as the sub-functions necessary to rationalize this policy. M.O.S.T. is designed to create and integrate the procedures and sub-functions required of a sophisticated management system for educational administration. The term *planning,* as used here, "involves the identification of the broad goals of the organization and the specification of strategic policies which prescribe the way in which the organization will go about achieving its goals".[1]

[1] Albert E. Cleland and Henry King, *Systems Analysis and Project Management* (New York: McGraw-Hill, 1975), p. 25.

Four functions comprise the M.O.S.T. planning process. These are:

1. Creation and Modification of Mission Statement
2. Organizational Integration and Delegation
3. Evaluation
4. Budgeting

Although each is an integral part of the total management system, M.O.S.T. creates separate sub-systems for the functions of data collection, processing and evaluation. These areas will be mentioned only briefly in describing planning but are developed in greater detail later. However, it must be remembered that strategic planning cannot occur in a vacuum. The planning sub-system of M.O.S.T. presupposes operation of the other sub-systems just as evaluation implies planning.

Creation and Modification of Mission Statement

Every organization must be cognizant of its surroundings. Although environment may seem like a vague term when used in a planning context, one must remember that a college includes more than facilities within a physical environment. Colleges operate within a social, political, legal and economic setting. M.O.S.T. requires a determination of environmental conditions that will affect the purpose or policies of the institution. In addition to collecting necessary geographic and demographic data, the environment must be defined in socio-politico-economic terms. Therefore, community advisory committees, surveys, demographic studies, legal opinions and consultant input must be utilized so that major planning decisions can be made upon a broad foundation. Further, this input should be an on-going process designed to provide a continuous flow of information to college planners.

The data collection process should provide a determination as to which needs of the community can be satisfied by the institution. While the unfulfilled needs of a community are varied and manifold, they must be thoroughly explored from a perspective of service to be provided since the fulfillment of these needs leads to long-range success for the organization. Based upon this input, M.O.S.T. requires planners to investigate alternative courses of action all of which are directed at particular needs of the community. The alternatives will be

many, reflecting the varied interests that might be served. M.O.S.T. establishes a mechanism, initially as well as on-going, that provides input from the community.

Another aspect of a college environment is the availability of resources. Using a M.O.S.T. approach, the institution must examine its resource potential at the outset of operations and from that time forward. Current financial resources, the likelihood of future financing, the availability of facilities and a wide range of other assets must be determined. Among the latter are human resources (e.g., expertise in certain areas), employee dedication, management sophistication, access to skilled labor, political resources in the form of legislative guarantees, relations with government officials, community support, the functioning of systems and procedures within the organization, rational organizational structure, licenses and copyrights, and attitudes of suppliers. When the current environment has been analyzed to the extent that needs, resources, and general conditions have been determined and these data have been supplied to appropriate planners, the M.O.S.T. program builds upon the analysis and projects future conditions. To accomplish this task a forecasting model is required. In M.O.S.T. the model is not a single technique but rather a set of techniques determined by the situation. Accurate forecasting demands a knowledge of present conditions as well as of past data. Changes and developing trends must be analyzed statistically so that thorough projections can be presented. If planning is to have a successful outcome, as much quantitative data as possible must be examined before planning occurs. Although final forecasts will involve qualitative factors, quantitative methods of analysis must provide the bulk of the data.

Since the mission statement is likely to chart the course of the college for many years without significant change, it is most important that the inputs for this decision be quite extensive. Inputs from the Board of Trustees, the community, the President and staff are necessary but insufficient. Quantitative data on the total environment and extensive information on projected conditions must be fed into the decision-making process along with the mission statement.

In planning, every public and private institution must recognize that it can only satisfy a few of the needs of the service area because of the constraints upon it. These constraints are internal or external factors which tend to confine the limits of activities

that the college can engage in. The numerous constraining factors include financial limits, legal or political limitations, competitive or technological boundaries, and forecasted long-range conditions. An understanding of the limits of action is essential if rational planning is to occur. Data generated prior to the operational stage, when viewed in light of the alternatives being considered, should define the bounds and the potential of the college.

Since any organization has a limited freedom of action, it must become aware of its limits, then utilize this knowledge to its advantage. The college that is fully aware of its alternatives and constraints will have a competitive advantage over other institutions by developing strategies more consistent with reality which are therefore more likely to succeed. A major feature of M.O.S.T. is its insistence on and use of data and analysis. Alternative missions or strategies that fall within the limits of environmental and projected constraints must be analyzed on the basis of maximizing benefit to the community as well as on the cost/benefit level.

Forcing planners to view their alternatives as mutually exclusive events puts emphasis on decision making and a consequent need for analysis. Once the relevant data on costs, benefits and projected outputs have been reviewed, the actual decisions must be made to formalize the broad goals of the institution. These goals should not be overburdened with detail at the mission statement level. Rather they should indicate the needs that the institution plans to satisfy in a concise statement of overall purpose and policy. The final mission statement will then be continuously scrutinized over time to ensure that the benefit maximization originally intended is occurring and will continue to occur. As the needs of the community change, it is imperative that the direction of the college be reviewed and altered.

Organizational Integration

A self-employed individual, working alone, has a need to organize the processes of his work. If this person is to attain his goals, he must create an operating system that will lead to the desired outcome. If these goals are at all complex or varied, even the one-person company will require an information system so that the on-going attainment of objectives can be monitored. Of course the organization of processes and procedures and the information system in the one-person firm need

not be complex. The important point is that these systems are necessary in some form within even the smallest institution.

Imagine the complexity that is added to the organization if a self-employed individual takes on a dozen partners. There are now thirteen persons, each presumably working toward the attainment of the same goals. Division of labor and hierarchical structuring demand new arrangements, superior/subordinate relationships, vertical and horizontal information flows, and ultimately, much more time and effort expended on managing the system itself.

When the achievement of institution-wide goals involves the coordinated effort of 200 to 20,000 individuals – each with personal goals and motivations – planning the organization becomes a major task in itself. The theory of organizational structuring has become very sophisticated, to the extent that Gerald Skibbins describes seven stages of organizational concepts. These concepts range in increasing sophistication from the mosaic and clockwork to the organic organization.[2] Most theorists, however, agree on certain fundamental principles of organization. These include:

1. The organization shall be defined as a hierarchy of tasks to be performed to fulfill the stated objectives of the business, and shall not be framed around individuals.
2. Every task will have a unique description and carry the appropriate degree of responsibility.
3. The responsibility for task implementation shall be accompanied by an appropriate delegation of authority sufficient to carry out the task.
4. The interrelationships between tasks shall be formally specified in the policies and procedures of the business.
5. A single chief executive will be nominated with complete responsibility and authority for the successful operation of the business to the owners or their nominated policy-forming representatives.
6. A superior is at all times held accountable for the relevant activities of subordinates within his jurisdiction, whether formal delegation of responsibility and authority has been issued or not.
7. There should be a minimum number of levels of

[2]Gerald J. Skibbens, *Organizational Evaluation* (AMACOM) 1974, Chapter 2.

delegation commensurate with the efficient implementation of tasks.

8. A superior should have no more subordinates reporting to him than he can efficiently monitor and control. In practice this has been found to be no more than six and customarily four or five.[3]

Whether an organization consists of a single individual or twenty thousand, some organizing of effort is mandatory, and, in general, the effort expended in the task of organizing increases as the institution becomes larger or more complex. The purpose of any organizing activity is to expedite achievement of the objectives of the firm; thus there must be a planned method of organization deriving from the tasks involved for the attainment of particular goals. No one form of structure and processes is correct for every company, or for the same company over time. Thus the organization must not only be planned, it must periodically be evaluated to determine whether the current structure is optimal. A changing or growing institution must evaluate its organization on a much more frequent basis.

For the multitude of human goals and aspirations to be concurrently satisfied along with the goals of the institution; tasks, motivations, interdependencies, needs and information flows must be carefully projected. Only with careful planning and review will organizational and individual goals be satisfied simultaneously. Thus it is of major inportance for the institution to define and analyze its own processes continuously.

Increasingly, the demand for an accounting of the output of colleges and universities has caused these institutions to take a closer, more analytical look at their own processes. If change is allowed to occur unrestrained and unexamined, these processes can become confused and disoriented. As new goals are perceived, old ones are overlooked. Responsibility for achieving certain goals can become clouded to a point at which no one is ensuring their attainment. Thus, colleges have lately been obliged to become more introspective, examining their own goals and processes so that an accounting can be made to the public and procedures can be initiated to expedite achievement of their established objectives. Kast and Rosenzweig have cited goal orientation as a prime function of an organization.

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[3]Dennis Cooper-Jones, *Business Planning and Forecasting* (New York: John Wiley & Sons, 1974, p. 24.

> Organization behavior is directed toward objectives which are more or less understood by members of the group. The organization uses knowledge and techniques in the accomplishment of its tasks. Organization implies structuring and integrating activities, that is, people working or cooperating together in interdependent relationships . . . Therefore, we say that organizations are: 1) goal oriented; 2) psychosocial systems; 3) technological systems; 4) an integration of structural activities.[4]

If an organization is to be goal-oriented, its immediate task must be a definition of goals, or a mission statement. Once the goals have been defined, activities or processes can begin in an integrated fashion to achieve these goals. That is, the organizational structure must be integrated with goal attainment. As we have seen, the first phase of college planning must be the determination of the mission statement. With this as a focal point, the planning function of M.O.S.T. can begin.

For a college functioning before the implementation of a management system, the paramount need of the President and his planning staff is a knowledge of the structure and process of the institution as it currently exists. Although defining current structure is an involved task for a large college, it must be done, not only for the data it provides but as a basis for change. The organization cannot be planned satisfactorily until there is information in written or visual form from which analysis can begin.

> Organizing basically involves the definition and arrangement of the parts and linkages of the organization. The parts are actually organizational roles, which may take the form of job descriptions, and groupings of roles, as in the case of departments. The linkage may be in the form of communication networks or authority relationships.[5]

By following the line relationships of an academic division, one should be able to see the programs currently offered, where the responsibility for success lies, and the lines of formal communication and authority extending from each program. From this initial definition it becomes possible to define output, to group costs in a program budget format, to evaluate existing programs and trace the effects of creating or revising programs.

Since it is quantitatively oriented, M.O.S.T. presumes that a representation of the college,

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[4]Fremont Kast and James Rosenzweig, *Organization and Management — A Systems Approach* (New York: McGraw-Hill, 1974), p. 6.

[5]Tim Hostiuck, *Contemporary Organizations* (General Learning Press, 1974), p. 107.

through numerical designation, can be stored and manipulated on the computer. Through the use of the numerical designations, each individual in a college can be grouped by program, department, division, labor code and the like, and statistical information can be gathered in the format needed. Analysis becomes much easier with the aid of sophisticated computer programming, especially on-line access to the stored structure of the college.

An organization consists of more than departments, authority relationships and individuals within classifications. To function as an organization, a college also requires systems and procedures that specify how particular tasks are accomplished, both efficiently and within the constraints of policy. Written description of procedures are essential to the development of a management system. Although formalizing the tasks involved in each departmental activity demands time and effort, no analysis can occur until these tasks are formalized.

M.O.S.T. attempts to integrate the structure and processes of a college with the mission statement. That is to say, the President and his Executive Staff are charged with the task of planning the organization in light of the mission statement finalized by the Board of Trustees. This planning can become quite complex in a large institution and unless particular departments are assigned the task of generating the data needed by the planners for structuring, the function often is overlooked.

Planning the structure of a college involves an evaluation of the present system as it relates to the goals of the institution and, in addition, systematic analysis of each department. This analysis should include testing the present system against alternative structures, relationships and functions. Reorganization, although it should not happen frequently on a large scale, must be a continual process within any college. As new goals and objectives are added, new functions are created and old ones may be eliminated. Reorganization can be seen as a dynamic process whereby the institution remains in step with the needs of its service community.

To judge the current structure as well as alternatives, the college must be aware of management theory concerning such topics as evaluation of effectiveness, division of work, delegation of responsibility and authority, span of control, channels of communication, flexibility, and the prioritizing of functions. All these factors and many others enter into the strategic planning of the institution. Each division head, as well as the

central office, should maintain a program of organizational analysis to better facilitate the attainment of their goals.

The development of systems and procedures in written or schematic form is essential to M.O.S.T. A procedures manual typically lists the routine tasks that must occur in order for the program to succeed. These tasks are described in a way that can be analyzed for efficiency and effectiveness and are also easily understood by new employees. The formalization of procedures creates on-going systems of work flow within a college so that changes in personnel or management do not severely disrupt the necessary processes of a department.

In M.O.S.T., orgnizational integration and analysis becomes a part of the planning cycle. Each department contributes essential input into this phase of planning by continually reviewing and revising its procedures and organizational structure as they relate to the objectives of the department and the goals of the division.

Delegation and Objective Setting

The objective-setting process is primarily concerned with the future of a college. By setting objectives, a commitment is made to the future of the institution. This commitment includes people, time, money, facilities and all other resources over which management has control. Every manager implicitly sets objectives with each decision he makes and through this process commits himself and others to future outcomes. Certain end results are expected from every decision concerning immediate needs or problems as well as from decisions relating to long-range objectives. A series of decisions has an impact on the direction of the organization. It is the purpose of M.O.S.T. to ensure that this impact is planned.

Although the objective-setting process is similar for administrative and academic planning, both of which derive from the same source and are based upon the same concepts, they are dissimilar procedurally. Whereas planning extends beyond programs to individuals in the administrative sector, in the academic arena, program objectives are further refined into course objectives.

In M.O.S.T., all goals and objectives stem from the same source – the mission statement. When the latter has been determined, it is the responsibility of the President and the divisional heads to determine broad goals for each division. Presumably, the structure of the organization has been

designed to help integrate the mission statement into the college hierarchy. Goals, therefore, are created and divided in such a way that the flow of authority and responsibility can best achieve them. This process results in determining individual divisional plans based upon a larger college plan.

Goals and the strategies implemented to attain them are, at the divisional level, quite broad. Specific programs and activities necessary to their attainment are not yet necessary, although if the mission statement planning has been done correctly, the final programs will fall within the realm of reason. In like manner, it should be known in general what resources will be necessary to the attainment of divisional goals, even though exact amounts are not known.

Chronologically, following the development of the mission statement, the President and his staff are charged with the duty of developing an organizational structure best suited to accomplish the college mission, then delineating authority and responsibility within this structure through the assignment of broad goals to be achieved on the divisional level (i.e., the creation of divisional plans).

The next stage in the planning process is additional specification of goals so that they become departmental objectives. This and the programming stage must become increasingly more exact as well as more measurable. Special functions are assigned to departments through a coordinated effort involving the divisional head and his department managers. When these functions, complete with particular responsibilities and the authority required, are known by each manager, the next step is to determine departmental objectives. This determination should be a joint effort between the division and department heads.

The formulation of objectives should coordinate available resources, skills and facilities so that the best fit between individuals and situations is found. Once again it must be stressed that objectives should be written so that the fulfillment of each department's objective will lead to the achievement of divisional goals, which in turn will lead to the attainment of the mission statement. To ensure that this process is truly working, M.O.S.T. includes data base and evaluation sub-systems, the functions of which are to control and report on the output of the college. (These sub-systems will be more fully discussed in a later publication).

The quantification of objectives is vital to

ensuring their achievement. Often, non-explicit objectives are set merely because they sound impressive. Objectives should be as specific as possible and lend themselves to clarification through the use of ratios, percentages, averages, correlations, and standard deviations. Quantification helps to define expected results better than a verbal statement and also yields a built-in measure of success. Beyond these advantages, quantification of current objectives will promote future analysis if programs are to be enlarged or reduced.

Based upon the divisional plan, department managers determine their long – and short-range objectives. Yearly objectives, stating the function of the department in a general way as well as some of the more significant and time-consuming specific goals, should be prepared at the start of each year. It is best if the department manager sets these objectives in conjunction with his divisional head since they are both concerned with the attainment of the same goals. The objectives determined should be challenging but not extend beyond the capability of a successful manager. With input from above and below, objectives become motivational since the individuals involved created them and agreed upon their necessity as well as their attainability.

Monthly or quarterly objectives, correlated with the yearly plans, should be set and measured by each department in order to create milestones and ensure attainment of the longer-range goals. This process forces individuals to plan their work and the work of their department. In some cases, the objective-setting procedure can be taken one step further through the determination of program as well as individual objectives.

Once departmental objectives have been identified, it is the responsibility of the manager involved to create programs designed to achieve with efficiency the expected results. A program consists of all the activities required to meet a particular objective. It is a plan of action designed so that its procedures yield a functioning work process that in turn yeilds the actual departmental output. In the community college environment, specific procedures are needed in dozens of departments. In the administrative departments alone there are programs such as accounts payable, counseling, budgeting, and facility maintenance, which must be reckoned with.

Programs generally have the following characteristics:

1. A program should permit the comparison of

alternative methods of pursuing an imperfectly determined policy objective.

2. Even if the objectives are clearly defined, a program should seek alternative means of achieving these objectives.
3. Programs may consist of a number of complementary components, some of which may be effective without others and some of which are highly interdependent on the whole.
4. A program defines an element within a larger process and is usually tied or linked to other program elements.
5. Programs may have overlapping structures, where these overlaps are used as means to meet certain objectives.
6. A program is concerned with the time span of expenditures.[6]

Managers may discover many feasible programs, each of which could achieve the same objective. It is at this point that systems analysis becomes essential. Each alternative must be evaluated by the manager to determine cost/benefit relationships, the time frame involved, skills, or personnel required, equipment or facility needs, as well as other factors, some of which are less tangible than those already mentioned. Systems analysis is a method designed to provide information to planners for input into their choices among alternatives. The essence of this approach is "the effort to compare alternatives systematically, in quantitative terms when possible, using a logical sequence of steps that can be retraced and verified by others".[7]

The necessity to choose between alternative programs is forced upon colleges by the scarcity of resources. Given unlimited resources, every college could meet its objectives. The efficient organization, however, must expend considerable managerial time and talent upon the development of the best program for each objective. Programs as well as objectives should be defined in terms that are as quantifiable as possible so that the activities involved can be measured against the output generated.

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[6]Aaron Wildovsky, "PPBS: A Symposium", *Public Administration* Review (December, 1966), p. 157.

[7]E. S. Quade, *Systems Analysis Techniques for Planning-Programming-Budgeting*, P-3322 (Santa Monica, Calif.: RAND Corporation, March, 1966), p. 18.

M.O.S.T. requires that each department manager write justifiable programs for each function assigned to him. Further, he must be able to show that the program has been tested against others and that the one chosen was done so upon rational criteria. The written procedures for each program may be thought of as program elements or activities and are actually further subdivisions within a specific program.

Analytical methods of measuring performance while programs are in process are a necessity because this feedback allows everyone involved to judge the effectiveness of the program and its implementation. If failure is imminent due to the imprecise projection of events, an alternative program may feasibly be implemented. If not, the persons involved will have traveled a good distance along the "learning curve" and more accurate forecasts can be made in the future. Performance measurement during and after the fact are essential ingredients to the successful implementation of M.O.S.T. By stating objectives in quantifiable terms this measurement process is enhanced.

When a program ends, it will be found to have been more or less successful than planned. If it has not achieved the objective for which it was designed there is a need to determine the cause of its failure. This failure is more easily analyzed if the program is specific and measurable. Some failures can be traced to the uncertain nature of a projection. If assumptions of future occurrences prove incorrect, there may have been no way to avoid falling short of the stated objectives. But if the assumptions prove valid, the failure must be in the program itself or in those responsible for its implementation. Since everyone involved should be aware of the goals and objectives that they were expected to meet, and since they had input into the decision-making process which formulated these goals, responsibility for success or failure can be more easily assigned. This fact, in itself, is an important motivational device.

Each departmental program should be designed to achieve both long- and short-range objectives. The major goals of the college can only be attained through the proper use of strategic planning. This involves making short-run decisions, but even these should be analyzed in relation to their long-run impact. To ignore this impact is tantamount to ignoring the thrust of the mission statement. To assume that short-run programs have no long-run implications may cause a major portion of their costs or benefits to be disregarded. Thus, when

dealing with alternative courses of action, as much foresight and knowledge must be used as is feasible.

Although the concept that the objective-setting process is motivational as well as rational will be fully explored in the section on Staff Development, it should be mentioned here. Management theorists have shown recently that involving individuals in the objective-setting and programming functions increases both understanding and performance of their jobs and their job satisfaction. Thus, by drawing on the knowledge and experience of its employees, both college and the employee benefit.

Managers, unfortunately, do not become effective planners merely through the implementation of a management system. Individuals must be trained to plan just as they are trained for any other function. The planning sub-system of M.O.S.T., as well as the other sub-systems, may be expensive in the short run. Training, though, is essential to any management system. The cost of creating a system may seem exorbitant before the actual improvements are noticed, but since some type of coordinated strategic planning technique is mandatory in any institution, it is best to implement an entire, interrelated system that encompasses all areas of management.

Because the budgeting function within M.O.S.T. is directly tied to objectives and programs; when the College funds a department, it is, in reality, funding the objectives of that department as relevant components of the institutional goals. Since each program is designed to achieve only one major departmental objective, M.O.S.T. creates an accounting system to accumulate cost on a program basis. Using this technique, college planners can better understand the relationship between their goals and resources and are then able to use this information to test their priorities.

Evaluation also is based upon programs and objectives. Like the budgeting process, this subsystem will be discussed in detail separately, but it should be noted here how the planning and evaluation sub-systems interrelate. When objectives and programs are quantified, data are generated before, during and after their implementation. These data take the form of the analysis which occurs prior to determining the proper program and output measures that are derived from the program itself. The output measures, when tested against resources utilized and current community

needs, comprise the major portion of the evaluation function. The entire system of data generation, its processing and the evaluation process to which it leads depends upon the proper groundwork being done in the planning sub-system.

Responsibility for planning cannot be isolated in a single department in a M.O.S.T. system. Each manager becomes part of a planning network which extends throughout the college and at every level. By making each individual partially responsible for the direction of the college, M.O.S.T. draws upon the skills and talent of many times the number of individuals normally located in a "planning" office. Helping each department plan its function, M.O.S.T. also encourages initiative, innovation and self-motivation.

One serious flaw of many extant planning systems is their near total neglect of the instructional component of educational administration. M.O.S.T. requires that academic goals and objectives become an integral part of college planning. If one remembers that a rational evaluation of the success or failure of an institution of higher learning will rest largely on the effectiveness and efficiency that go into the college output, it becomes clear that measures of the degrees of effectiveness and efficiency must be made. It is also apparent that a complete management system will provide the planning and measuring devices necessary for weighing the success of the college's major output – direct instruction to students.

Coincident with administrative planning the academic component of M.O.S.T. provides procedures whereby the college mission statement is distilled into a long-range plan for the academic division, complete with measurable goals and milestones. Further refinement of these goals leads to the determination of departmental, program and course objectives. It is this final process which inevitably becomes the most difficult. One must cope with the enormous coordination of personnel and activities needed to determine the scope and variety of instructional objectives, and also overcome the prevalent attitude that instructional success connot be measured.

If it were true that the outputs of education could not be adequately measured, taxpayers would be hard pressed to set any value on education. And one could fairly pose the question, "To what purpose are massive numbers of tuition-paying students transferring their hard-earned dollars to the institution"? M.O.S.T. contends that the

reason education is supported by taxpayers and students alike is that they believe that some benefit is derived from it. It is this benefit, usually in the form of specific skills or perceptions, that can and must be measured.

Academic planning is attained in M.O.S.T. when the deans, faculty and other involved groups develop measurable objectives, performance indicators and milestones within each program area and then in each course within the individual program. This process, when completed, allows the faculty to be cognizant of their responsibility to the student prior to the beginning of classes, and futher, allows students to investigate thoroughly each course or program before they commit their time, effort and money to it. Thirdly, this planning process yields a written record of the benefit being provided to the community, thus testifying to the value received for their tax dollars.

The last major benefit provided by the instructional objective-setting process is the foundation upon which meaningful evaluation can occur. Evaluation takes place both internally and externally, with or without the proper information. The advantage of compiling measurable objectives accrues to all parties in the evaluative process since this process becomes more rational and based upon predetermined criteria.

Evaluation and Budgeting

A. Evaluation

An intricate planning system cannot be justified unless it can be shown to result in some benefit to the organization. This benefit should be in the form of greater output, more efficient output, a closer linkage of the college product to the needs of the community. Thus a measurement system to gauge the output of the institution is indispensable. M.O.S.T. provides systems which have the primary function of ensuring that necessary data are being produced, processed and used to evaluate the various services that constitute the output of the college.

Procedures must be created within each department that not only expedite the function of the area but also yield data on the amount and types of services being provided. These data, through the aid of manual or computer processing, can then be summarized into a format that allows for efficient evaluation by management. For instance, raw data in the form of student registration documents are

typically processed into reports summarizing the information by course, location, and department. These reports can then be used to aid in evaluation of the mission statement, the objectives of the academic departments and the registrar's office.

Evaluation occurs when processed data are used to compare actual with desired output. If the objective-setting process is functioning properly, it will provide the information against which actual output can be compared. Thus, for purposes of evaluation, a data collection function is provided by M.O.S.T. that tests the results of college planning.

B. Budgeting

A comprehensive budgeting system should yield data on the output of an organization and the costs associated with each type or category of output. If this is accomplished, rational decisions concerning the allocation of scarce financial and human resources can be made. Without proper data, it becomes impossible to justify the initiation or maintenance of any program to the exclusion of any other. As often happens, programs are continued or expanded only because the alternative uses for the funds involved are not known and the cost of the total on-going program is not quantified.

The M.O.S.T. budgeting system funds specific programs, each of which is designed to accomplish a stated, measurable objective. In this way departmental budgets are tied directly to their output and the priority of that output in relation to the other goals of the college. The activities required for every program are associated with costs. These costs are the basis of the traditional budget. They are the inputs of the system: the total quantity of manpower, facilities, equipment and materials applied to a program and expressed in dollars or units. The output orientation of budgeting in M.O.S.T. differentiates it from typical budget systems since it requires that the program's output justify its cost. As mentioned above, planning implies choosing between alternative courses of action. This choice is forced upon colleges because they have only limited resources at their disposal. M.O.S.T. provides a method of describing and evaluating their choices, choosing among them and measuring the results. It is in this manner that planning and budgeting are merged.

Budgeting on a program basis lends itself to analysis through its focus on output. Programs are initiated, controlled and analyzed more efficiently if the budgeting and accounting systems accumulate costs in a manner that facilitates the evaluation

of those programs. A budgeting system is the allocation of resources necessary to achieve these strategies. By making the budget process output-oriented, the focus of evaluation remains upon service or product generation rather than total cost.

Conclusion

In M.O.S.T., each sub-system is related directly to the planning sub-system. Although inputs and outputs may derive from elements seemingly unrelated to planning or decision making, this basic relationship is primary to the system as a whole. The essential function of M.O.S.T. is to determine the goals and objectives of the college and then to assist management in the attainment and evaluation of them.

The planning system is, of course, central to this process. It begins with a determination of the needs of the service community and the resources and constraints involved, then moves to a projection of this environment into the future. This phase is followed by the development of strategic alternatives and the actual decision-making process. Information is fed into the total system from the data and evaluation sub-systems and data are generated for future use.

When the goals of the college are finalized, the planning sub-system demands that each department, whether academic or administrative, project its output based upon the college mission. Measurable objectives for departments, programs and courses are formalized so that their relationship to the overall goals is clear. This function also requires significant amounts of information and generates more data to be used in evaluating performance.

The instructional sub-system is based upon the same premises as the system as a whole. It also requires planning and evaluation based upon relevant information and a process of staff development. The distinction lies in the environment. Instructional planning occurs within its own frame of reference. Course objectives and evaluative techniques are quite dissimilar from most management objectives. The instructional sub-system is actually an attempt to introduce scientific planning and evaluation into the academic arena.

The evaluation of the system utilizes the measurable goals and objectives set in the planning stages, compares their expected results with actual outcomes as provided by the data system and presents the variances and their causes back to management. Thus, planning can be seen as a cycle of events.

Although the start of this cycle is usually seen as initial planning, there is much informational input required even before initial planning can progress. Once the strategic plans are determined, lesser objectives are "cascaded" through the institution. This process generates data which are collected, utilized and stored for future use. As the college begins operations, procedures developed to achieve objectives begin to generate data on actual performance. When these data are processed along with the planning data, relevant information useable for evaluation is created. Much systematic effort is required just to ensure that the proper data are collected and that subsequent processing produces relevant information.

M.O.S.T. uses budgeting as a method of prioritizing objectives. Although not a planning device, the budget does assist in tying resources to objectives and in this respect becomes an integral component of planning.

The M.O.S.T. system as a whole produces procedures and processes directed toward improving the effectiveness and efficiency of educational institutions. In achieving this end, it performs a service not only to the management of the institution, but to its staff, students, community and revenue sources (typically taxpayers). By forcing the college to define its expected output and then creating systems to measure and direct performance, M.O.S.T. increases the probability that the needs addressed by the mission statement will be satisfied.

*This publication is second in a series being planned to delineate other salient features of M.O.S.T.

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